

## REMARKS

This answer is in response to the final Office Action dated 12/05/2007. Claims 1-28 were rejected in this Final Office Action. By this Amendment, Claims 1, 5, and 6 are amended, and no new claims are added.

### I. Claim Objections

The Examiner objected to claims 5 and 6 asserting that some of the chemical formulas contained misspellings.

The Applicant has amended claims 5 and 6 to overcome the objections.

### II. Claim Rejections - 35 U.S.C. §112

The Examiner has rejected Claims 1-28 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The Examiner asserts that Applicant has amended Claim 1 to read “A method ... to reduce wafer to wafer film thickness uniformity, the method comprising ...” and that “There is no support for this limitation in the Specification as originally filed.”

The Applicant has amended Claim 1 to more clearly recite the invention and believes the “35 U.S.C. 112” rejection of Claim 1 should be withdrawn because the Applicant believes that the amended Claim 1 complies with the written description requirement.

### III. Claim Rejections - 35 U.S.C. §103

The Examiner has rejected Claims 1-4, 11, 13, 14, 16 -18, 24, and 25 under 35 U.S.C. 103(a) as being unpatentable over Tsukune, et al. (European Patent Application 0 387 656 A1, hereafter Tsukune) in view of Ravi (United States Patent 5,952,060), Taylor, et al. (United States Patent 5,882,424, hereafter Taylor), Maydan, et al. (United States Patent 6,109,206, hereafter Maydan) and Reiss, et al. (United States Patent Application Publication US 2003/0014145 A1, hereafter Reiss).

The Applicant traverses the rejection of Claims 1-4, 11, 13, 14, 16 -18, 24, and 25 under 35 U.S.C. 103(a) because the Applicant believes that the Examiner is using “hindsight reasoning” based on the elements of the Applicant’s claimed invention. The Examiner alleges

that the RF sources in the different cited references can be combined as required by the Examiner to reject the various elements in the Applicant's claimed invention. Those skilled in the art would recognize that each of the cited references uses specific RF configurations for specific purpose and that the combinations suggested by the Examiner would not be obvious to those skilled in the art. In addition, there is no motivation in Tsukune to use multiple RF sources or to use inductively coupled sources as taught by the cited references.

The Examiner admits that Tsukune is deficient in several ways and attempts to use the other reference whenever it is convenient to reject the elements of the claimed invention.

Claim 1 as amended in the application is directed to [a] method for operating a plasma enhanced chemical vapor deposition (PECVD) system *"to improve wafer to wafer film thickness uniformity,"*; the method comprising performing a chamber seasoning process comprising a chamber cleaning process and a chamber pre-coating process wherein the chamber cleaning process uses a remote plasma device, a first RF source, and a second RF source to form a plasma in a processing chamber, with a fluorine-containing gas, an oxygen-containing gas, or an inert gas, or a combination of two or more thereof, *"wherein the remote plasma device is coupled to the processing chamber using a valve"* and wherein the chamber pre-coating process uses a silicon-containing precursor, a carbon containing precursor, or an inert gas, or a combination of two or more thereof, positioning a substrate on a substrate holder in the processing chamber, depositing a film on the substrate, wherein a processing gas comprising a precursor is provided to the processing chamber during the deposition process, removing the substrate from the processing chamber, and measuring the film on the substrate using an integrated metrology module configured to measure wafer film thickness.

In addition, the Applicant has amended Claim 1 to more clearly recite the invention and the Applicant believes that the amended Claim 1 is patentable over Tsukune in view of Ravi, Taylor, Maydan, and Reiss. The Applicant asserts that the *Tsukune, Ravi, Taylor, Maydan, and Reiss* references fail to teach all claim limitations of amended claim 1, and because *Tsukune, Ravi, Taylor, Maydan, and Reiss* fail to teach all claim limitations of amended claim 1, a prima facie case of obviousness has not been established for independent claim 1 and dependent claims 2-4, 11, 13, 14, 16 -18, 24, and 25.

The Examiner has rejected Claims 8, 9, and 28 under 35 U.S.C. 103(a) as being unpatentable over Tsukune in view of Ravi, Taylor, Maydan, and Reiss and further in view of

Mahorowala et al. ("Tunable Anti-Reflective Coatings with Built-In Hard Mask Properties Facilitating Thin Resist Processing," Proceedings of SPIE (4343) : 306-3 16,200 1, hereafter Mahorowala). The Applicant asserts that the *Tsukune*, *Ravi*, *Taylor*, *Maydan*, *Reiss*, and *Mahorowala* references fail to teach all claim limitations of amended claim 1. Because *Tsukune*, *Ravi*, *Taylor*, *Maydan*, *Reiss*, and *Mahorowala* fail to teach all claim limitations of amended claim 1, a prima facie case of obviousness has not been established for independent claim 1 and dependent claims 8, 9, and 28.

The Examiner has rejected Claims 5-7, 10, 12, and 15 under 35 U.S.C. 103(a) as being unpatentable over *Tsukune* in view of *Ravi*, *Taylor*, *Maydan*, and *Reiss* and further in view of *Hashizume*, et al. (US 6,410,102, hereafter *Hashizume*). The Applicant asserts that the *Tsukune*, *Ravi*, *Taylor*, *Maydan*, *Reiss*, and *Hashizume* references fail to teach all claim limitations of amended claim 1. Because *Tsukune*, *Ravi*, *Taylor*, *Maydan*, *Reiss* and *Hashizume* fail to teach all claim limitations of amended claim 1, a prima facie case of obviousness has not been established for independent claim 1 and dependent Claims 5-7, 10, 12, and 15.

The Examiner has rejected Claims 19-21 under 35 U.S.C. 103(a) as being unpatentable over *Tsukune* in view of *Ravi*, *Taylor*, *Maydan*, and *Reiss* and further in view of *Law*, et al. (US 4,960,488, hereafter *Law*). The Applicant asserts that the *Tsukune*, *Ravi*, *Taylor*, *Maydan*, *Reiss*, and *Law* references fail to teach all claim limitations of amended claim 1. Because *Tsukune*, *Ravi*, *Taylor*, *Maydan*, *Reiss*, and *Law* fail to teach all claim limitations of amended claim 1, a prima facie case of obviousness has not been established for independent claim 1 and dependent Claims 19-21.

The Examiner has rejected Claims 22, 23, and 27 under 35 U.S.C. 103(a) as being unpatentable over *Tsukune* in view of *Ravi*, *Taylor*, *Maydan*, and *Reiss* and further in view of *Kuwada*, et al. (US 200210029748A1, hereafter *Kuwada*). The Applicant asserts that the *Tsukune*, *Ravi*, *Taylor*, *Maydan*, *Reiss*, and *Kuwada* references fail to teach all claim limitations of amended claim 1. Because *Tsukune*, *Ravi*, *Taylor*, *Maydan*, *Reiss* and *Kuwada* fail to teach all claim limitations of amended claim 1, a prima facie case of obviousness has not been established for independent claim 1 and dependent Claims 22, 23, and 27.

The Examiner has rejected Claims 26 under 35 U.S.C. 103(a) as being unpatentable over *Tsukune* in view of *Ravi*, *Taylor*, *Maydan*, and *Reiss* and further in view of *Steger*, et al (United States Patent 5,788,799, hereafter *Steger*). The Applicant asserts that the *Tsukune*, *Ravi*, *Taylor*,

*Maydan, Reiss, and Steger* references fail to teach all claim limitations of amended claim 1. Because *Tsukune, Ravi, Taylor, Maydan, Reiss, and Steger* fail to teach all claim limitations of amended claim 1, a prima facie case of obviousness has not been established for independent claim 1 and dependent Claims 26.

Given the above remarks, independent claim 1 is now in condition for allowance. The dependent claims 2-28 are similarly in condition for allowance as they incorporate limitations from independent claim 1. In light of the comments above, the Applicant respectfully requests the allowance of the claims 1-28.

If the undersigned agent has overlooked a teaching in any of the cited references that is relevant to the Allowability of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities or questions that can be addressed via telephone, the Examiner is encouraged to contact the undersigned agent at 480-539-2105 or by email at [jim.klekotka@us.tel.com](mailto:jim.klekotka@us.tel.com).

Applicants are of the opinion that a three-month extension of time is due with the Amendment. Payment of all charges due for this filing is made on the attached Electronic Fee Sheet. If any additional charges or credits are necessary to complete this communication, please apply them to Deposit Account No. 23-3000.

Respectfully submitted,

WOOD, HERRON & EVANS L.L.P.

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